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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/673,967 | 09/29/2003 | Martin Dust | MOH-P010006 | 3962 |

7590 03/12/2004

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| EXAMINER |
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SAINT SURIN, JACQUES M

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| ART UNIT | PAPER NUMBER |
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2856

DATE MAILED: 03/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--|-------------------------------------|--|
| Office Action Summary | Application No. 10/673,967 | Applicant(s) DUST, MARTIN | |
| | Examiner Jacques M Saint-Surin | Art Unit 2856 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/01/03, 10/17/03 and 09/29/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>2</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kervinen et al. (US Patent 5,418,823) in view of Ogasawara (US Patent 4,865,040).

Kervinen et al. discloses generating a plurality of transmission impulses at a predetermined location of the multiplayer component using an ultrasound probe (ultrasonic testing equipment 505 may be any conventional system or apparatus for accurately measuring the wall thickness of a metal tube through ultrasonic techniques, such as, for example, the apparatus disclosed in commonly assigned U.S. Pat. No. 5,063,780, issued Nov. 12, 1991 to Landry teaching in col. 3, lines 47-50 transducers X1 and X2 seen in Fig. 1 are utilized for dimensional inspection of a tube, which may be a nuclear fuel rod cladding tube (col. 8, lines 33-38);

digitally recording, resulting echo signals associated with a transmission impulse (digitized impedance data acquired from electromagnetic subsystem 503 and digitized diameter measurement data from ultrasonic measurement subsystem 502 is stored in memory 504, and subsequently retrieved by computer 501 to calculate thickness, T.sub.b, of a cladding tube, see: col. 8, lines 38-44). However, Kervinen does not

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specifically suggest or disclose an image data and homologously superimposing a plurality of wall thickness echo periods of different transit times using a computer program. Ogasawara the digital data is supplied to input buffer memory 4 where it is stored as ultrasonic image data, see: col. 3, lines 11-12. Ogasawara further shows superimposing circuit 8 in Fig. 2 and further teaches the superimposing timing is controlled by microcomputer 12, and the ultrasonic image data and ultrasonic scanning condition data superimposed one over the other by superimposing circuit 8 are supplied as an output to digital/analog A/D converter 9, see: col. 3, lines 31-36). It would have been obvious to one having ordinary skill in the art at the time of the invention to utilize in Kervinen the techniques of Ogasawara because the echo signals are stored as image data and as obtained on the ultrasonic image recording system are superimposed one over the other by the superimposing circuit and the corresponding data is recorded in a time sequential function to the recording area thereby making the above combination able to effectively superimpose the plurality of wall thickness echo periods in an efficient manner.

Regarding claim 2, Kervinen discloses steps S3 through S8 provide for determining liner thickness from both impedance and ultrasonic data acquired from specimen under test, see: col. 8, lines 55-58)

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Landry et al. (US Patent 5,063,780) discloses an ultrasonic dimensional and flaw inspection of thin-walled tubular elements.

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Mozurkewich (US Patent 5,608,165) discloses ultrasonic thickness gauge for multilayer plastic fuel tanks.

Ishikawa (US Patent 5,635,644) discloses an apparatus for measuring a layer thickness using transverse waves of ultrasonic waves.

Takahashi et al. (US Patent 5,201,225) discloses instrument for measuring thickness of coated plate and method thereof.

Carodiskey (US Patent 6,035,717) discloses a method and apparatus for measuring the thickness of a coated material.

Harth, III et al. (US Patent 5,661,241) discloses ultrasonic technique for measuring the thickness of cladding on the inside surface of vessels from the outside diameter surface.

Senevat et al. (US Patent 5,577,088) discloses a method and device for ultrasonic examination of faces of the internal surface of the wall of cladding.


Nakano, et al. (US Patent 5,349,860) discloses apparatus for measuring the thickness of clad material.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacques M Saint-Surin whose telephone number is (571) 272-2206. The examiner can normally be reached on Monday-Friday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (703) 305-4705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jacques M. Saint-Surin
March 04, 2004



HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800